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PART 1 - CONTINUING PROFESSIONAL DEVELOPMENT PROGRAM

1.1 Introduction

The Association of Professional Engineers and Geoscientists of New Brunswick (the “Association”) has been entrusted with the responsibility for the regulation of engineering and geoscience in the province of New Brunswick. In this role, the Association must protect the public interest by ensuring that engineers and geoscientists:

- conduct their work on an ethical basis
- acquire and maintain a level of knowledge commensurate to their practice
- practise with an appropriate level of skill

The *Engineering and Geoscience Professions Act* and the By-Laws, including the Code of Ethics, clearly require that engineers and geoscientists practise only in areas in which they are competent. Engineers and Geoscientists are also required to maintain and enhance their own competence, to contribute to the advancement of knowledge and to encourage employees to improve their knowledge and education.

The engineering and geoscience professions, like other professions, recognize that in a world of expanding knowledge and rapid technological change, competency is a dynamic issue. Learning has indeed become a lifelong process and professionals are called upon to maintain continued competency.

This guideline will outline the mechanisms that the Association uses in the Continuing Professional Development Program.

1.2 Continuing Professional Development Program Components

It is the responsibility of each engineer and geoscientist to maintain their competency. Individual programs for maintaining continued competency should be directed by the needs appropriate to the nature of the practice of the individual engineer or geoscientist.

There are two key aspects to maintaining continued competency:

- Acquisition of Knowledge: Competency in terms of Acquisition of Knowledge is assured through the Continuing Professional Development program. The minimum requirements for professional development are presented in Part 2 of this document.
- Competency in Practice: Competency in Practice requires engineers and geoscientists to use processes and procedures that are consistent with the requirements of the *Engineering and Geoscience Professions Act* and respect their duty to fulfill their professional obligations to their clients and the public.

1.3 The Continuing Professional Development Process

Members Affected

Continuing Professional Development applies to all engineers and geoscientists who are practising engineering and geoscience as defined in the *Engineering and Geoscience Professions Act*. It is

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understood that individual scopes of practice might range, for example, from detailed technical analysis, through technical sales, to management and direction of engineering and geoscience projects and enterprises. In every case, active practice will require adherence to the principles of the Continuing Professional Development Program.

Exemptions from Continuing Professional Development reporting process shall be granted upon application for time periods where the member is not actively practising as a result of:

- parental leave
- medical leave that has resulted in an absence from employment for an extended period

Exemptions may be granted for:

- licencees (i.e. non-residents of New Brunswick who are not eligible to be members, but are licensed to practise the Professions)
- engineers and geoscientists who are retired and have no employment income
- cases of special consideration such as engineers and geoscientists working outside the country as deemed by a review committee to warrant special consideration based on criteria to be developed for evaluating such cases

In all cases where exemptions are granted, engineers and geoscientists shall retain their professional designation and remain bound by the *Engineering and Geoscience Professions Act*.

Engineers and geoscientists who have been granted an exemption may be required to demonstrate their competency by review of their continued professional development records before returning to practice.

1.4 Reporting Requirements

1.4.1 Annual Reporting

On or before January 1st of each year, an engineer or geoscientist shall report their Professional Development Hours (PDHs) to the Association using the Association's Member Portal at www.membership.apegnb.com. The engineer or geoscientist must indicate the number of PDHs they claimed for professional development activities in the 12 months before January 1st of each year.

1.4.2 General Requirements

An engineer or geoscientist must:

- maintain a written record of professional development activities
- report their professional development hours annually
- submit a detailed activity record on request

1.4.3 Recording Activities

An engineer or geoscientist shall maintain a detailed record of their professional development (PD) activities and must retain such records for at least three years.

The records must include the following information:

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- the date(s) the activity occurred
- the description/title of the activity
- the organizer/provider (individual or organization) of the activity (if applicable)
- the PD category in which the activity belongs
- the number of Professional Development Hours (PDHs) the engineer or geoscientist has claimed for the activity

The number of hours claimed must support the hours that the engineer or geoscientist has submitted in the Member Portal.

1.5 Verification of Continued Professional Development (CPD) Activities

1.5.1 Annual Program Overview

The Association will automatically review the online CPD reporting of each engineer or geoscientist. The purpose of the automated review is to verify that Association members are fulfilling the CPD requirements by:

- reporting their CPD activities
- achieving the minimum number of PDHs in the recognized categories

1.5.2 In-Depth Program Review

The CPD committee shall investigate those members whose records do not indicate compliance with the minimum requirements as submitted in the online reporting. The CPD Committee may also audit a random sample of members' CPD records annually. This review would include a request for detailed records and verification of completion of claimed credits. For this reason, members are required to keep detailed records of their CPD activities for at least three years.

The Committee will advise the engineer or geoscientist as to the outcome of the review: whether the activities comply with the requirements of the program, or whether some modification is necessary. The Committee may also provide coaching on opportunities for improvement, collaborate on a remediation plan, or require that a Practice Review of the member's work be conducted (see Part 3 – Practice Review Guideline, pages 9 – 12 of this document).

1.5.3 Non-Compliance

Failure to comply with the CPD program is considered professional misconduct and is subject to administrative suspension. Non-compliance is defined as:

- failure to report PDHs through the online portal on or before January 1st of each year
- failure to provide detailed records, if requested
- failure to develop and submit a detailed remediation plan, if requested

Failure to comply with the program within 30 days may result in notification to the Registrar that the name of the person be struck from the Register. In the event of an administrative suspension, a member will be eligible for reinstatement after satisfactory completion of the requirements of the program. A

member is not in good standing and unable to practice while any components of the CPD Program are incomplete.

PART 2 - MINIMUM REQUIREMENTS

2.1 Introduction

The Continuing Professional Development Program establishes a minimum benchmark for the professional development of engineers and geoscientists. It is the responsibility of the engineer or geoscientist to assess his/her professional development needs, using this document as a guide.

The guideline provides flexibility for engineers and geoscientists to undertake activities that provide the greatest benefit to them in their own professional practice. Various formal and informal activities count towards professional development, and it is expected that each engineer and geoscientist will tailor their development program to suit their own goals.

2.2 Individual Professional Development Plan

The Association recognizes that the practices of engineering and geoscience are diverse. The scope of practice will vary widely between engineering and geoscience disciplines and sub-disciplines, and between individuals within those sub-disciplines. The Continuing Professional Development Program is designed to accommodate such differences by relying on member-directed learning rather than a prescribed curriculum. It is necessary for individual engineers and geoscientists to decide what to learn and which methods best suit their specific continued professional development requirements.

In developing a PD plan, the individual concerned will find it useful to have a clear understanding of their scope of practice. Engineers and geoscientists are encouraged to write a short document that describes their scope of practice to serve as a reference for self-evaluation of ongoing CPD activities. The scope of practice should allow for some flexibility within the individual practice; a narrowly defined or restrictive scope can impede professional development. In the event an engineer or geoscientist assumes a new position, or takes on significant new responsibilities, they will need to review and modify their scope of practice.

Having considered their scope of practice, engineers and geoscientists should ensure that their CPD activities relate to their practice. A written plan of study may be helpful in this regard. It is important that professional development activities are relevant to the scope of practice, and attention to this at the planning stage is appropriate.

Activities relevant to continued PD may involve:

- the application or development of technical theory
- learning of new concepts
- practical experience
- management of engineering and geoscience practice
- communication and interpersonal skills
- public, community, and professional service

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The level of effort that engineers and geoscientists apply to their PD programs is measured by Professional Development Hours (PDHs). The conversion between actual time spent in PD activities and PDHs depends upon the type of activity being pursued.

The Association requires that engineers and geoscientists complete PD activities to the extent that they accumulate a minimum of eighty (80) PDHs per year.

The Association recognizes six (6) categories of PD activities that can lead to the accumulation of PDHs. Each category is described briefly in the following sections along with specific examples of activities within the category and the PDH credit allowed. Please note that the lists of activities included in the various categories are not comprehensive. The PDH credit information is summarized in Table 1.

2.2.1 Professional Practice

Active professional practice contributes to maintenance and improvement of skills. As such, it qualifies for PDH credits when the work falls within the scope of practice of the engineer or geoscientist. One (1) PDH can be claimed for each twenty (20) hours of professional practice to a maximum of forty (40) PDHs per year.

Members in practice for thirty (30) or more years can claim a credit of twenty (20) PDH each year towards the maximum of forty (40) PDH.

2.2.2 Formal Activity

Formal activities are those provided as a structured course or program, often for credit, occasionally with an evaluation process. Examples of formal activities are: courses provided through universities, technical institutes, and colleges; industry-sponsored courses, programs and seminars; employee training programs and structured on-the-job training; and short courses provided by technical societies, industry or educational institutions.

Generally, one (1) hour spent in the activity (contact hour) earns one (1) PDH. However, courses offering Continued Education Units (CEUs) will provide ten (10) PDHs for each CEU. University and-college courses will provide ten (10) PDHs for each credit hour the course carries in the institution's academic calendar to a maximum of thirty (30) PDHs.

2.2.3 Informal Activity

Informal activities are those activities that you pursue to expand your knowledge, skills or judgement. Examples of informal activities include: self-directed study of books and journals, attendance at conferences, technical sessions, seminars, workshops and industry trade shows, and/or structured discussion of technical or professional issues with one's peers.

Two (2) hours of informal activity earns one (1) PDH to a maximum of thirty (30) PDHs per year.

2.2.4 Participation

Activities that promote peer interaction and provide exposure to new ideas and technologies both enhance the profession and serve the public interest. Examples of participatory activities include: acting as a mentor to a member-in-training or other less experienced professional engineers or geoscientists;

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service on standing or ad-hoc committees of technical, professional or managerial associations or societies; service on public bodies that draw on your professional expertise (planning and regulatory boards and service commissions, investigative commissions, review panels, etc.); activities that contribute to the community or religious organizations; or, elected public service on municipal, provincial or federal levels.

One (1) hour of participatory activity earns one (1) PDH to a maximum of twenty (20) hours of PDH. No more than ten (10) PDHs per year may be claimed for contributions to community or religious organizations and/or for elected public service on municipal, provincial, or federal levels.

2.2.5 Presentations

Technical or professional presentations that are made outside the normal job function qualify for PDH credit. Both preparation and presentation of material would normally be expected. Examples of qualifying activities include presentations at conferences or meetings, and the presentation of courses, workshops or seminars.

One (1) hour of actual presentation activity earns two (2) PDHs to a maximum of twenty (20) per year.

2.2.6 Contributions to Knowledge

Activities that expand or develop the knowledge base in the disciplines of engineering and geoscience also constitute valid PD activity. In this case, the extent of PDH credit depends upon the detailed nature of the activity. Examples of qualifying contributions to knowledge include:

- Development of published Codes and standards, where one (1) hour of committee work earns (1) PDH.
- Patents, where each patent earns fifteen (15) PDHs;
- Publication of papers in peer-reviewed technical journals, where each paper earns fifteen (15) PDHs;
- Publication of articles in non-reviewed journals, where each article earns ten (10) PDHs;
- Reviewing or editing articles for publication where each hour spent in the review or editing process earns one (1) PDH;

A maximum of thirty (30) PDHs may be accumulated for contribution to knowledge each year.

2.2.7 Professionalism and Ethics

Activities that promote professionalism and ethical behaviour are encouraged. These may be structured courses, refresher courses, or programs. Members can claim credit in the appropriate category (i.e. Formal Study, Participation, etc.).

Table 1: PDH credits by category

Category	Examples	PDHs/Activity Hour	Max./Year
Professional Practice	Active professional practice as engineer or geoscientist	1 PDH/20 hours	40
		Practice of 30+ years earns a credit of 20 PDH	
Formal Study	Courses at/from universities, industry, or employer	1 PDH/hour <i>or</i> 10 PDHs/CEU <i>or</i> 10 PDHs/credit hour	30
Informal Study	Self-directed study, field trips, conferences, seminars	1 PDH/2 hours	30
Participation	Mentoring an engineer- or geoscientist-in-training, standing on technical committees, service on public bodies	1 PDH/hour	20
		No more than 10 PDHs from community/religious/elected public service	
Presentation to Others	Conferences, field trips	2 PDH/hour	20
Contributions to Knowledge	Codes and standards, patents, publications	1 PDH/hour	30
Professionalism & Ethics	Structured courses, refresher courses, or programs	See relevant category (Formal Study, Participation, etc.)	--

PDH = Professional Development Hour CEU = Continuing Education Unit

2.2.8 Roles of Engineers and Geoscientists, the Association, and Employers in Professional Development

The primary responsibility for professional development and maintaining competence rests with the individual professional engineer or geoscientist. This is inherent to all professions, and is reflected in the Association's By-Laws, Code of Ethics, and past practice.

The Association is, first and foremost, a guardian of the public interest in the matters of engineering and geoscience works. As such, the Association's primary role is to establish standards of practice for those that are authorized by the Association to do engineering and geoscience.

All employers also have a role to play in the professional development of engineers and geoscientists in their employ. Engineers and geoscientists are encouraged to discuss their PD programs and plans with their employers. Through discussion and mutual agreement, the employer and the engineer or geoscientist can decide on professional development goals and the nature of employer support of those goals.

Employers who are also professional engineers or geoscientists have an ethical obligation to “encourage employees to improve their knowledge and education”.¹ While the nature and extent of this encouragement is left to the determination of responsible engineers and geoscientists, support of the PD programs of employee engineers or geoscientists is certainly appropriate in this context.

PART 3 - PRACTICE REVIEW GUIDELINE

3.1 The Practice Review Process

Practice Reviews, when required, are an important component in the Professional Development Program of the Association. The process is confidential and applies to individual engineers and geoscientists. The Practice Review will be conducted at the request of the Professional Development Committee.

The Practice Review is intended to confirm that an engineer or geoscientist who practises in a given field will perform in a manner consistent with the performance of reputable professionals practising in the same field. The reviewer will review the engineer's or geoscientist's scope of practice and evaluate their qualifications, experience, and processes, with respect to that practice.

The Practice Review is conducted by a peer engineer or geoscientist with knowledge and background appropriate to evaluate the manner in which the engineer or geoscientist practises.

The reviewer will be appointed by the Continuing Professional Development Committee in consultation with the engineer or geoscientist being reviewed. The reviewer will be a registered engineer or geoscientist with a scope of practice similar to that of the engineer or geoscientist being reviewed.

One reviewer will usually be sufficient. A supplementary reviewer may be necessary if the first reviewer does not consider his/her expertise and experience to be adequate.

The reviewer will be contacted by the Continuing Professional Development Committee. The reviewer and the engineer or geoscientist will be given instructions with respect to the timing and manner of the Practice Review and appropriate arrangements will be made.

The reviewer must be or become familiar with the work of the engineer or geoscientist. This may be achieved through a discussion with the engineer or geoscientist being reviewed and an examination of their work including plans, drawings, maps, reports, and calculations.

It is proposed that the practice review can be achieved by a visit to the workplace of the engineer or geoscientist and an interview with the engineer or geoscientist. Prior to the site visit, the Committee will provide the reviewer with copies of the information as completed for the Continuing Professional Development process.

Where the practice of the engineer or geoscientist involves confidential, commercially sensitive, or proprietary information, the engineer or geoscientist is not required to disclose this information. The engineer or geoscientist should advise the Continuing Professional Development Committee and reviewer of the general nature of the information upon which confidentiality is being maintained.

¹ APEGNB Code of Ethics 2.3.

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The reviewer will compile a practice review report as outlined in these guidelines. The report will be discussed with the individual being reviewed. The report will be submitted to the Continuing Professional Development Committee.

3.2 Practice Review Overview

3.2.1 General

The Practice Review includes:

- an evaluation of the process by which work is produced
- examination of the engineer's or geoscientist's adherence to the *Engineering and Geoscience Professions Act*, By-laws (including the Code of Ethics), and the Continuing Professional Development Program
- an evaluation of capability in the discipline or field of practice as determined by the reviewer
- an examination of the engineer's or geoscientist's work

3.2.2 Preparation

The site visit is a meeting between the engineer or geoscientist being reviewed and the reviewer. This review will normally occur at the engineer's or geoscientist's place of employment, unless otherwise discussed with, and agreed to, by the reviewer. The documents requested must be completed to the satisfaction of the Professional Development Committee.

Where a site visit is impractical, review by telephone or video conferencing may be requested by the engineer, geoscientist, or reviewer, with such necessary modifications to the procedure as required.

3.2.3 The Practice Review

The site visit begins with a review of the Practice Review process, followed by a review of the documents completed by the engineer or geoscientist.

The following criteria will be considered during the review:

- scope of practice
- technical capability
- access to resources
- records
- quality assurance procedures
- means by which competence is maintained
- proper use of engineering or geoscience seals

3.2.4 Scope of Practice

The scope of the engineer's or geoscientist's practice will be reviewed. This assessment may include, but is not limited to:

- the types of projects undertaken by the engineer or geoscientist
- the role played by the engineer or geoscientist in these projects
- the level of responsibility assumed or taken by the engineer or geoscientist

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The reviewer will consider projects and documents as a means of understanding the engineer's or geoscientist's scope of practice. These documents may include, but are not limited to:

- contracts
- project list, log book, and time sheets
- proposals
- drawings, specifications, maps, reports, etc.
- promotional brochures

An employer's policies (both technical and corporate) will be reviewed only as to their potential impact on an engineer's or geoscientist's practice.

3.2.5 Technical Capabilities

The reviewer will assess the technical capability of an engineer or in geoscientist within the scope of practice. The following may form part of the reviewer's evaluation:

- technical training
- length and type of experience appropriate to scope of practice
- involvement of an engineer or geoscientist in continued professional development
- knowledge in field

The reviewer will verify technical currency and capability by selectively reviewing criteria that can include some of the following:

- references
- memberships in technical associations
- attendance at seminars, conferences, and workshops
- extent of publishing
- design notes of a specific project
- complete design drawings
- project specifications
- relevant sub-consultant reports
- design codes and material standards used
- design criteria used and assumptions made

3.2.6 Access to Resources

The reviewer will attempt to confirm that the engineer or geoscientist has access to all required and necessary technical resources, personnel, and equipment to perform the professional responsibilities associated with their scope of practice.

The reviewer will establish whether the engineer or geoscientist is in frequent contact with experienced peers and that resources are relevant and current regarding codes and standards.

The reviewer may examine documents to verify:

- use of an accessible technical library
- use of current codes, by-laws, and standard documentation

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- availability and currency of catalogues, product information, and technical journals
- availability of the necessary equipment to perform the stated scope of work
- field safety programs

3.2.7 Records Management

The reviewer will verify if the engineer or geoscientist maintains relevant and adequate project files to document the work performed.

The reviewer will assess whether engineering or geoscience design notes are legible, indexed, and complete. As well, investigations, reports, contract documents, field changes, and design revisions will be reviewed for proper documentation, accessibility, and safe storage.

3.2.8 Quality Management

The reviewer will assess whether an engineer or geoscientist has an independent engineer or geoscientist available to review calculations and designs, particularly in high-risk situations, and whether such a review is used.

A reviewer may consider a formal quality management plan by the engineer's or geoscientist's employer as partial compliance with quality control aspects of the review.

PART 4 - FURTHER INFORMATION

For further information regarding the Continuing Professional Development Program, please contact us:

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